Periscope.

CLINICAL.

Congress of German Surgeons. (*Medical Week*, April 20, 1895). Of the many important and to neurologists, extremely interesting contributions made before the German Congress of Surgery the Address of Von Bergmann on "Recent Progress in Cerebral Surgery," and the Report by Kocher on "Six Thousand Extirpations of Goitre," merit the closest attention. The former said that, thanks to the introduction of antiseptic methods and the steady advance realized by phys siologists and clinicians in the domain of cerebral localization, surgeon now unhesitatingly, and frequently with success, undertake the treatment of diseases which have hitherto been regarded as incurable. Unfortunately, for various reasons, and particularly the difficulty or impossibility of arriving at a correct diagnosis in many of the cases, the field of cerebral surgery will always be limited. Thus, with regard to tumors of the brain, statistics show that operation is practicable only in 29 per cent. of all cases, and that three-fourths of these cannot be operated upon on account of the impossibility of arriving at a diagnosis. All our efforts should, therefore, be directed, on one hand, toward defining the diagnostic indications, and on the other hand, toward perfecting more and more our operative methods. Considerable advance has already been made in the latter direction by the introduction of extensive osteoplastic resections of the skull, which render possible the extirpation of large tumors. Nothing is of more importance than speed in operation, and this can be obtained by the use of an instrument which I am enabled to show you, consisting of a circular saw, set in extremely rapid motion by means of a small electric motor. With this instrument a large bone flap may be sawed out in a few moments, the operation being completed by the aid of a sharp chisel, in order to avoid, as far as possible, injuring the dura-mater.

Numerous attempt have been made to cure epilepsy by surgical treatment; but these attempts have proved unsuccessful, except in those forms of epilepsy which are due to a lesion of the cortical motor centres. It is necessary, however, to be guarded in drawing conclusions from the results obtained, as cases of temporary recovery of epileptic patients, consequent upon simple trephining or excision of a cicatrix of the scalp. are of frequent occurrence. For my own part, I have seen epileptic attacks cease during the time necessary for the healing of the wound in an individual who had undergone amputation of the leg. It is impossible to approve of operations, which consist in extirpating, in epileptic patients. portions of the cerebral cortex which are apparently healthy, but which are considered to be the starting-point of epileptic seizures. Extirpation, indeed, is only justified in cases in which a distinct lesion, a cyst for example, exists.

Great success has been obtained in operations for abcesses of the brain. Surgeons have even had the courage to attack thrombosis of the sinuses and suppurating leptomeningitis. In this case also the diagnosis is far from being always possible. and in many instances of unsuspected abscess intervention is, therefore, abstained from. In the very short time at my disposal I cannot deal as fully with the treatment of intracranial abscesses, as would be desirable in view of the importance of this subject. I shall, therefore, confine myself to briefly considering the most frequent form of these abscesses, viz , those which follow a suppurating otitis media. In one-fourth of such cases, the cause of the suppuration is a cholesteatoma of the middle ear. Intracranial abscesses, developing under such conditions by continuity, are situated either outside, or within, the dura-mater, or in the interior of the cerebral substance, most frequently in the temporal lobe. In order to reach these abscesses, which are comparatively accessible and, as a rule, located in the portion of the cranial cavity situated above the tympanum, I have devised a method of operation, which, in my opinion, is preferable to the simple trephining usually resorted to in such cases. This proceedure consists in resecting a quadrangular portion of the wall of the skull immediately above the external auditory meatus. With this object in view, a cutaneo-musculo-periosteal flap, left adherent at its upper part, is made by three incisions, one horizontal, beginning above the zygoma and ending behind the mastoid process, the others vertical and perpendicular to the former, one in front of the tragus, the other behind the mastoid process, both being carried upward to a height of about 4 centimetres. Removal of the bone beneath this flap gives unobstructed access to the interior of the skull, and greatly facilitates the task of the operator.

In thrombosis of the sinuses, surgical intervention has given unexpected results. The object of this intervention, as is well known, is to reach directly the transverse sinus—which is the one usually involved—through the mastoid process, the transverse sinus being situated beneath the middle portion of the latter. It is unnecessary to insist upon the details of this operation; incision of the sinus after exploratory puncture, evacuation of the clots, disinfection and plugging, and lastly, ligature of the internal jugular vein. Of thirteen cases operated upon, recovery followed in six. Death is usually due either to pyæmia or to suppurating leptomeningitis.

Of late, operations have been undertaken in order to remedy the inconveniences resulting from exaggerated intracranial pressure, from whatever cause. In this connection Quincke's attempts at tapping the lumbar portion of the spinal cord, in cases of basilar meningitis, are worthy of mention. The results obtained so far have only amounted to some improvement of short duration. In no instance has a fatal termination been averted by such puncture, but, on the other hand, it has proved useful as a diagnostic measure, because, if bacteriological examination of the liquid withdrawn reveals the presence of Koch's bacillus, it is evident that it is a case of tubercular meningitis. Possibly puncture may also be of value as an aid to diagnosis, when the existing symptoms do not permit of a differential diagnosis between abcess of the brain and more or less localized suppurating meningitis.

In commenting on his "Report of Extirpation of Goitre," Kocher remarked during the past ten years in which he had performed the operation on 900 patients, he had met but one case in which cachexia strumipriva had developed. This was entirely owing to the fact that he always left a part of the thyroid gland, which was sufficient to carry on the funtions of that organ. In the single case in which the cachexia developed the extirpation was unilateral, but after the operation it was found that the other side was atrophied.

A very interesting statement by Kocher is that he had several times noticed that tetany, which he is pleased to call acute cachexia, developed. It is interesting, likewise, to hear that the patient in whom cachexia strumipriva developed recovered through thyroid feeding.

In speaking of the mortality in his operations, Kocher says that he deducts thirty cases of malignant goitres in which unusual and peculiar difficulties militated against success Of the remaining 870, eleven died; but in six only was death the direct result of the operation, and of these three were operated on for Graves' disease. The extirpation of the goitre in the latter disease he regards as dangerous. For the latter he prefers to ligature the thyroid arteries; but never more than three of them.

Referring so some researches that had been made under his observation by Lanz and Trachewski in the treatment of goitre by the ingestion of thyroid extract, the author said that in the long run this method may determine complete atrophy of healthy parts of the thyroid gland. He further remarked that all the symptoms of Graves' disease had been produced in healthy animals by these experiments. He found also that the symptoms of exopthalmic goitre improved greatly under treatment by phosphate of sodium. J. C.

Intracranial Hæmatoma with Collateral Paralysis.—Ledderhose reported a case of intracranial hæmorrhage with collateral paralysis, that is to say, paralysis affecting the same side as the extravasation. The patient was a man, aged thirty-eight, who was knocked down in a fight and kicked on the head. Though he lost consciousness for the moment, he was able in a short time to walk home, but during the next few days he gradually developed symptoms of cerebral depression. At the end of nine days he was obliged to take to his bed. When seen three days later he was in a comatose state, with paralysis of the entire right side of the body. A diagnosis of intracranial hæmorrhage from laceration of the left middle meningeal artery was made, although there was no sign of a fracture. No hæmorrhagic focus was found. The patient died on the day following the operation. At the autopsy it was proved that there was neither fracture of the skull, nor laceration of the middle meningeal arteries; but on the right side, corresponding to the paralysis, there was within the dura-mater a large hæmatoma, covering the middle and posterior portion of the corresponding hemisphere. On carefully scrutinizing the literature of the subject only thirteen cases of collateral paralysis, consequent either upon cranial traumatism or other pathological lesions can be found Brown-Séquard was the first to call attention to this condition. On the other hand, researches by various investigators, Pierret among the rest, have shown that abnormalities and individual differences frequently exist in the manner in which the fibres of the cerebral hemispheres cross each other. It may even happen that they do not cross at all, and this fact explains the possibility of collateral paralysis. Cases of this kind may be a source of great embarrassment to the operator, as it is usually impossible to diagnose the site of a lesion on the same side as the paralysis Sometimes, however, the existence of an œdematus swelling of the optic disc on the paralyzed side suggests such an abnormality. Be this as it may, when in a case of this kind, trephining does not enable us to find an extravasation where it was expected, one is justified in making a fresh opening in the bone on the side corresponding to the paralysis. J. C.

A case of lead-poisoning, with extremely rare symptoms. —Tankowski (*Neurologisches Centralblatt*, 1895, No. 7.

The peculiarities of the case were:

1st The unusual (? Ref.) manner of poisoning. The patient was a plumber and had to solder water-pipes with a mixture of lead-peroxide ($PC_3 O_4$) and shellack. In the author's opinion the poison could only have entered the body per os, the patient touching his food with unclean hands, thus introducing the poison with which they were soiled into the digestive tracts All other avenues for entrance of the lead could be excluded.

2d. The pulse which was hard at the time of the admission to the hospital, became filiform and irregular twenty-four hours afterwards; marked embryocardia, without apparent reason, no organic lesion of the heart walls or valves being present. Tankowski has not found such a condition of the pulse mentioned as in constant connection with lead poisoning, yet in his case no other cause but the lead poisoning could have produced it.

3d. There was a paresis of the lower branches of the right facial nerve. Aside from general statements in text-books on nervous diseases, Tankowski has not met with any cases of lead poisoning in the literature that were accompanied by said symptoms.

4th. The right pupil was smaller than the left and showed diminished response to light. Only one similar case has been reported (by Déjerine-Klumpke).

That the case was one of lead poisoning was proven by the presence of lead, the gums which showed a grayish-blue line on which two reactions were made A piece of absorbent cotton drenched with peroxide of hydrogen was pressed against the gums for several minutes, when it was found that the gray line had changed into a white one (PC T—gray, insoluble—by oxydation becomes PC T O_4—white, insoluble). The following second reaction was made: A piece of cotton was drenched with a solution of oxide of potassium to which a few drops of muriatic acid were added and pressed against the gums of the opposite jaw; when it was removed twelve minutes afterwards the gray line had turned yellow (by the mixture of H Cl with K O hydriodic acid formed which charged the PC T into PC T_2 an insoluble of yellow color). The presence of lead in the urine, proven by various reactions, was also proven. ONUF.

Tabes Arrested by Blindness.— Déjerine (*Gazetta degli Ospetali e delle Cliniche*, 1895, No. 46).

Benedikt was the first who called attention to cases of tabes complicated with atrophy of the optic nerve, and who pointed out the peculiar fact that in these cases, with and by the appearance of said atrophy, the development of the tabes became arrested. He further stated that whatever stage the tabes had reached, the motor disturbances characteristic of tabes receded, as soon as the disease complicated itself with atrophy of the optic nerves.

Déjerine confirms the first statement, but contradicts the second. According to his experience, the atrophy of the optic nerves if it does complicate the disease, sets in at an early stage, viz., before the disturbances of motor co-ordination have made their appearance. He thinks that when the motor inco-ordination is once established the patient can be nearly assured that he will not become blind.

Mostly the atrophy appears at a time when the tabes is distinctly marked already by the accompanying lancinating violent lightning-like pains. After these have existed some time the vision then begins to diminish, not simultaneously in both eyes, but first in one, then in the other. It diminishes quite gradually, the visual field becomes irregularly narrower for the various colors, first for the green and red, then for the yellow, last for the blue, the final result being always complete blindness. Correspondingly, the ophalmoscopic examination reveals, first, a grayish or gray-bluish papilla with sharp outlines, then a white papilla, and finally one that looks similar to mother of pearl with conservation of the calibre of the blood-vessels and without excavation.

From the side of the pupils there is to be noted inequality, myosis, mydriasis or normal dimension; but there is always absence of reaction to light and absence or diminishment of the reaction to pain, while the response to convergence remains preserved.

Simultaneously with the development of the blindness the lancinating pains nearly always diminish in intensity and frequency to disappear entirely in some cases.

In a second series of cases the amblyopia instead of following the lancinating pains at some more or less remote time, appears contemporaneously with them.

In the third series no pains exist, only the blindness is present. In these cases we probably have to deal with tabetics in whom the tabes has involved only the eyes, especially the optic nerves. The fact that in some such cases lancinating pains set in years afterwards (Gowers), and the pathological anatomical findings demonstrating the lesions of initial tabes prove clearly that we have before us a special clinical form of tabes.

The following facts are still noteworthy:

1. Sometimes the knee-jerks, after having been absent for years, appear again when blindness occurs.

2. The patients whose tabes has been arrested by the blindness do not present Romberg's symptom. They can stand steadily and walk as normally as a blind person can walk, showing no ataxy whatever in their gait.

3. The prognosis of the optic atrophy is fatal. Two cases illustrating the author's deductions are reported. In one case the lancinating pains disappeared after blindness had set in, while the gastric crisis remained uninfluenced. ONUF.

PSYCHIATRY.

A Case of Periodic Paranoia.—Ushenko (*Archivès. for Psychiatry, Neurology and Legal Medicine*, Russian, 1894, Vol. iii.)

The article begins with a review of the casuistic of the disease which shows that only three cases have been reported so far, one by Dagonet, (doubtful case), the second by Mendel, the third by Kausche. The author then describes his case: Family history.—Father a crank and an alcoholic; one brother a crank, women hater; has only four fingers on one hand; another brother has a marked curvature of the spinal column. Patient's history.—Man of thirty-five; teacher; married; of somatic peculiarities and irregular development of the teeth; frequent masturbation during five years, occasionally practiced such during his married life.

The first symptoms of mental disease were noticed in the spring of 1893, after an injury of the head, which was followed by erysipelas, although it is probable that mental aberration began earlier, and at first passed unnoticed. The development was gradual. The patient at first unsociable and distrustful became suspicious; watched keenly the people about him and saw in everything sinister intention towards himself. This distrust gradually developed into typical delusion of persecution with all its characteristic features. Later delusions of greatness also developed. Gustatory and visual hallucinations and occasional hallucinations of hearing somewhat tend to confirm him more in his delusory ideas, but do not play an important part. This condition which bears all the characteristics of paranoia (primäre Verrücktheit, délire systematise, folie systématisée) alternates with periods of perfect mental lucidity.

The patient was admitted to the asylum in November, 1893, where he presented the following condition: Complete orientation insomuch as he knows that he is in the Charkow Asylum, as he recognizes the physicians and acquaintances visiting him, etc. But he pretends that the actual designation of the asylum is to prepare its inhabitants (which he says are no patients) for prominent positions. He believes that another patient by means of electricity and magnetism knows all his thoughts and smiles at them. Absorbed in his thoughts he pays scarcely any attention to happenings in his surroundings, so that frequently the most common things escape his notice. But sometimes meaningless things excite his attention to a high degree; for instance, he anxiously and suspiciously watches how the patient formerly mentioned rubs his hands, which he considers as means to magnetize him. He imagines himself to be an extraordinary person, the people expect great deeds from him, perhaps he will make great reforms or become emperor, authors reciting of services have him in view, etc. He has illusions of sight, insomuch as he sees peculiar and actually not existing expressions, smiles, etc., in the face of his surroundings. Sometimes he tastes poison in the meals. He heard somebody call "anti-christ." Another time he heard the exclamation: "What is form." Whether he had more hallucinations it is hard to tell, but evidently they did not play a prominent part in his psychical life.

During his stay in the asylum the patient had an attack which begun before his admission to the asylum and lasted six days. Then he had an interval of perfect lucidity, lasting about one week, which was followed by a second attack of about two weeks' duration.

The characteristics of the case are: 1. The alternation of the attacks with intervals of lucidity. 2. The resemblance of the attacks between each other. 3. There is only a short premonitory period to the attack. 4. The whole personality becomes changed at the time of the disease. 5. Full understanding of his disease during the lucid intervals.

The author comes to the conclusion that periodic paranoia belongs to the psychoses of the degenerated, and characteristic of these psychoses is that no matter how frequently they may occur in an individual, they seldom lead to dementia. ONUF.

Contribution to the Doctrine of the Infectious Origin of Acute Delirium.—Branchi and Piccino (*Annali di Neurologia*, 1894, fasc. vi.

The result of this investigation of the authors confirms their views of the infectious origin of delirium acutum, as published in a previous article (*Annali di Neurologia*, 1893). In the present monograph they report eight cases of hallucinatory delirium. In seven cases recovery or considerable improvement took place; the eighth ended fatally. In the eighth case only did an examination of the blood reveal the presence of the bacilli which the authors had described in their previous article and which they consider to be characteristic of the delirium baccillare delirium grave). In all the other cases the blood contained micro-occi arranged in chains or grape-like, isolated or in pairs, staining with the usual aniline stains. Among the micro-organisms isolated from the blood, the authors noticed the streptococcus pyogenus (in four cases) and the staphylococcus aureus (in two cases).

The comparison of the findings in all cases mentioned leads the authors to the following conclusions:

1. Among the forms of mental disease which clinically bear the aspect of delirium acutum and have been described as such so far, there is one which might best be designated as "delirium acutum bacillare." This form differs from all others clinically by the greater intensity of the symptoms, by the adynamic stage which directly follows the stage of excitation, by the short course, and by exitus letalis; bacteriologically by the presence of a special bacillus in the blood and in the nerve centres.

2. Fever is not characteristic of the bacillary nature of delirium acutum; there are other febrile forms of acute sensory delirium in which no other cause (pneumonia, bronchitis etc.) can be attributed to the origin of the fever except the same which produced the delirium.

3. The delirium acutum bacillare must be considered as a grave infectious disease in which the symptoms of excitement and of grave disturbances of consciousness are succeeded by symptoms of depression and a grave typhoid-like condition.

4. In the other forms of acute delirium and mania gravis the bacteriological examination gives also positive findings, but other than in the delirium acutum bacillare. In these other forms grave disturbances of nutrition are observed, accompanied by fever and other toxic effects on the functions of the central nervous system, the greatest disturbance of which consists in the hallucinatory delirium

That Martinotti and Abundo did not find the bacillus mentioned, but other forms of micro-organisms in the cases of sensory delirium which they investigated, proves first that the forms of delirium observed by them were not the delirium acutum verum (bacillare); second, that these other forms of sensory delirium and mania gravis are much more frequent than the delirium acutum bacillare, which is a very rare disease.

5. The organic stupor must be considered as a secondary stage of the hallucinatory delirium, not only because exact observation always demonstrates the pre-existence of a hallucinatory stage, but also by the identity of the bacteriological findings in the hallucinatory stage and that of stupor. ONUF.

ANATOMICAL.

The Staining of the Nervous System.—Flatau (*Deutsche Med. Wochenschr.*, No. 13, 1895).

During a demonstration of specimens of the nervous system, Flatau said, speaking retrospectively, that in 1865, Deiters proved the existence, in every ganglionic cell of the nerve centres, of two kinds of expansions: some, branching, which have been described as protoplasmic processes, and another, finer filament, which has become known by the name of axis-cylinder. Almost at the same time, Gerlach showed that the protoplasmic processes were united to each other, forming a network which was known as Gerlach's reticulum. In 1880, Golgi proved that the reticulum does not exist, and that the protoplasmic processes terminate in free extremities. Golgi, however, assumed the existence of a reticulum formed by anastomoses of the collateral and terminal branchlets of the axis-cylinders; but, in 1889, Ramón y Cajal proved that this reticulum does not exist either, and that the ends of the prolongations of the axis-cylinders in the nervous system are entirely free.

To the nerve cells, as thus understood, that is to say, completely independent unities, which never anastomose either by their protoplasmic branches or axis-cylinder expansions, Waldeyer gave the name of neuron. The terminal arborizations of the axis-cylinder prolongations and the protoplasmic prolongations, which may be compared to the branchings of a bush, have come to be known as "end branches." Waldeyer has recently, in a work not yet published, decided to substitute the word "Polstücke" instead of "Endbäumchen."

The theory of the neuron simplifies greatly our conception of the structure of the central nervous system. Heretofore, for instance, it was supposed that the retina was composed of a large number of layers, while to-day it is generally admitted that it consists only of three neurones: the sight cell, the bipolar cell, and the ganglionic cell.

Is it possible to explain the physiological functions by the theory of neurons? Let us take motion, for example. A neuron, the motor cell of the pyramid, connects the terminal expansion of its axis-cylinder with the protoplasmic processes of a motor cell of the spinal cord, with the result that the impulse is transmitted to the nervous ramifications of the muscles and determines contraction. According to this theory, motion is the result of the transmission of a nervous current by two neurons, one of which is placed at the starting-point (archineurone), and the other (teleneurone) at the termination of the process

The sensory phenomena are also transmitted by two neurons, but in this case the cell of the spinal cord acts as archineurone, and the cell of the cortical layer as teleneurone.

In certain cases there may be an intermediary neurone.

All reflex acts may also be explained by conduction from neurone to neurone.

With regard to psychical phenomena, it is probable that they are the result of bringing into contact a greater or less number of protoplasmic cell expansions.

One can say with certainty that the neuron is not alone an anatomical, but a physiological entity. The important question which remains to decide is, whether the neuron is a functionary entity. To answer this question one must enter the domain of pathology.

The body of the cell plays the principal part in the life of the neuron. When it is changed, its prolongations degenerate. The death of the cell invariably precedes that of its prolongations.

In the sensory region the application of the neuron theory is most fitting to our conception of tabes

According to Charcot and his followers, the degeneration of the posterior columns in tabes is a primary lesion. Leyden, on the other hand, looks upon the degeneration of these columns as always preceded by degeneration of the posterior roots.

Wollenberg, in a case of tabes, found that the cells of the spinal ganglia were diseased, although he considered the lesion too slight to have been the starting-point for the tabetic process. Fresh investigations by Erb and Strümpell, however, showed that the motor cells exert a paramount influence on the peripheral portion of the nerve fibre. We are constrained to assume that changes take place in the spinal cells, which cannot be discovered under the microscope, but are, nevertheless, sufficient to determine degeneration of the posterior columns. The lesions discovered by Wollenberg in these cells are, therefore, in all probability sufficient to explain the degeneration of the posterior columns. J. C.

Experimental Investigation of the Changes Found in the Ganglionic Cells, in Acute Alcoholic Poisoning.—Dehio (*Centralbl. f. Nervenhk. u. Psych.*, March, 1895), experimenting on animals, in order to study the structural changes of the central nervous system, opens a new field for psychiatric investigations; Rabbits and dogs were poisoned with alcohol, the autopsy was made immediately after death, and the central nervous system examined microscopically. The changes in the ganglionic cells of the cortex were studied carefully, especially the Purkinje's cells of the cerebellum. By the aid of Nissl's methylene-blue staining method, the lesions of the nerve cells could be detected with great exactitude. The animals that died in a few hours (quick poisoning) showed such slight changes, that they could not be referred to alcoholic poisoning with certainty. The cases, in which the intoxications lasted for some time, were characterized by the following pathological lesions in the Purkinje's cells: 1. The tingible substance showed, instead of the delicate network, fine granula of equal size, which were distributed irregularly. 2. The non-tingible substance had taken a light blue shade. 3. The changes appeared in the entire cell at times, at others only in certain parts. The fine rows of granula in the prolongations remained unchanged. 4 The nucleus and nucleolus remained unchanged (with the methylene-blue stain). 5. All the ganglionic cells were by no means impaired, even where the changes were most advanced; in many parts there were whole rows of normal cells, and between them the pathological. The author is quite conscious of the fact, that the foregoing observations cannot explain the pathological effect of alcohol to any extent; but the positive result obtained teaches that experimentation on animals may be made use of in psychiatry and psychology, and that pathological lesions may be found in disturbances hitherto considered functional. MACALESTER.